



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/781,969	02/19/2004	David R. Lund	2421.002	4418

7590 08/26/2004

B. Craig Killough  
Barnwell Whaley Patterson & Helms, LLC  
P.O. Drawer H  
Charleston, SC 29402

EXAMINER

TRIEU, THAI BA

ART UNIT PAPER NUMBER

3748

DATE MAILED: 08/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/781,969

Applicant(s)

LUND, DAVID R.

Examiner

Thai-Ba Trieu

Art Unit

3748

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

***Claims 1-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Myles (Patent number 3,087,671).***

Myles discloses a rotary engine, comprising:

a stator (1) having an annular chamber (formed by 2 and 3) therein (See Figures 1-3 and 6-10);

a first piston (7 and 8, 9 and 10, 11 and 12, 13 and 14) that is disposed within said annular chamber (formed by 2 and 3), wherein said first piston traverses said chamber;

a second piston (7 and 8, 9 and 10, 11 and 12, 13 and 14) that is disposed within said annular chamber (formed by 2 and 3) , wherein said second piston traverses said annular chamber (formed by 2 and 3); at least one dog (20, 21, 22, 23) that is positioned within said annular chamber and which selectively limits the directional travel of said first piston and said second piston; at least one fuel inlet (via 31) to said annular chamber (formed by 2 and 3) ; and at least one exhaust outlet (32) from said annular chamber (formed by 2 and 3) (See Figures

Art Unit: 3748

1-3 and 6-10, Column 3, lines 50-75, Column 4, lines 1-2, and Column 6, lines 43-73);

wherein said first piston (7 and 8, 9 and 10, 11 and 12, 13 and 14) comprises a body and a protrusion (17) extending from a side of said body of said first piston, and wherein said second piston (7 and 8, 9 and 10, 11 and 12, 13 and 14) comprises a body and a protrusion (17) extending from a side of said body of said second piston (See Figure 3), and wherein a subchamber (16) is formed when said first piston and said second piston substantially abut each other, and wherein one end of said subchamber is closed by said body of said first piston and an opposite end of said subchamber is closed by said body of said second piston, and the remainder of said sub chamber is closed by walls of said annular chamber (formed by 2 and 3) (See Figures 1-3 and 6-10, Column 4, lines 3-50).

a first dog and a second dog (20, 21, 22, 23), wherein said first dog selectively limits travel of one of said first piston and said second piston (7 and 8, 9 and 10, 11 and 12, 13 and 14) in one direction, while said second dog selectively limits travel of a remaining one of said first piston and said second piston in an opposite direction (See Figures 6-10);

wherein said annular chamber is generally circular (See Figures 1-3 and 6-10);

wherein said annular chamber has a generally circular cross section (See Figures 1-3 and 6-10);

wherein said sub chamber (16) is present between said first piston and said second piston when travel of said first piston and said second (7 and 8, 9 and 10, 11 and 12, 13 and 14) piston are stopped by said first dog and said second dog (20, 21, 22, 23);

wherein an igniter (18) communicates with said chamber and said sub chamber (See Figure 2);

wherein when said first dog (20, 21) limits and stops the travel of one of said first piston and said second piston (7 and 8, 9 and 10, 11 and 12, 13 and 14) in one direction, the travel of a remaining of said first piston and said second piston (7 and 8, 9 and 10, 11 and 12, 13 and 14) forces said one of said first piston and said second piston forward, wherein movement of said one of said first piston and said second piston is stopped by said second dog (22, 23) (See Figures 2-3, Column 5, lines 17-75, and Column 6, lines 1-73);

wherein the travel of said remaining of said first piston and said second piston is stopped by said first dog after said remaining of said first piston and said second piston is forced forward (See Figures 2-3, Column 5, lines 17-75, and Column 6, lines 1-73); and

wherein fuel (via 31) is received between said first piston and said second piston while one of said first, piston and said second piston in stopped and said remaining of said first piston and said second piston travels (See Figure 2).

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Lin (US Patent Number 5,501,070) discloses a double rotor rotary engine.
- Reyblatt (US Patent Number 4,148,292) discloses an energy conversion devices.
- Arnal (US Patent Number 3,500,798) discloses a rotary engine.
- Manual (US Patent Number 1,131,148) discloses a rotary engine.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thai-Ba Trieu whose telephone number is (703) 308-6450. The examiner can normally be reached on Monday - Thursday (6:30-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas E. Denion can be reached on (703) 308-2623. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

Art Unit: 3748

For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TTB  
August 26, 2004



Thai-Ba Trieu  
Patent Examiner  
Art Unit 3748